Nationwide Analysis Of Resuscitative Endovascular Balloon Occlusion Of The Aorta In Civilian Trauma

SUMMARY:

- REBOA has been used since the Korean War but until 1986 did not appear in the civilian emergency medicine literature. Over the last decade, interest in this technique as a temporizing measure has increased.

- To date, studies have been mixed. Animal models and a few, relatively small studies have suggested REBOA is associated with improved clinical outcomes. However, a large Japanese registry study showed REBOA was associated with higher mortality.

- In this study, the authors use American College of Surgeons Trauma Quality Improvement Program data to assess the association between REBOA and 1) mortality 2) time to definitive procedure 3) transfusions and 4) lower limb amputations.

- Out of almost 600,000 trauma patients in the dataset, they identified 140 cases who received REBOA in the ED and 280 propensity matched controls who did not.

- Almost all cases were victims of blunt trauma.

- Key findings include: Mortality in the REBOA group was 36% vs. 19% in the controls. Time to definitive therapy whether angiography or laparotomy was about 15 minutes longer in the REBOA group and lower limb amputations were more common in the REBOA group (3.6%) than the control group (0.7%) as was acute kidney injury.

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EDITOR'S COMMENTARY: In this large, national sample of US trauma cases, REBOA cases were associated with higher mortality, more complications and longer time to definitive treatment than the controls. This is the second large study using different datasets to have similar findings. Though the evidence here is retrospective and propensity score matching cannot remove much unobservable bias, this study should give clinicians pause when thinking about exposing patients to this procedure. Results from an ongoing RCT in the UK will be informative when available.